

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

Claims 1-14 (Cancelled).

15. (Currently Amended) A method of treating cells present in a mammal, said method comprising ~~extracellularly~~ administering to said cells polyamide nucleic acid oligomers under conditions wherein said polyamide nucleic acid oligomers engender a biological response in a sequence specific manner, wherein said polyamide nucleic acid oligomers contain a neutral amide backbone linkage, wherein said polyamide nucleic acid oligomers contain a sequence complementary to a target nucleic acid present in said mammal, ~~and~~ wherein said biological response is associated with said target nucleic acid, and wherein said administration is an extracranial administration.

16. (New) The method of claim 15, wherein said biological response is characterized by a physiological change in said mammal.

17. (New) The method of claim 15, wherein said method further comprises detecting said biological response.

18. (New) The method of claim 15, wherein said target sequence comprises at least a portion of a coding strand of DNA within said cell, wherein said portion regulates, or is a template for, synthesis of an RNA molecule.

19. (New) The method of claim 18, wherein said RNA molecule encodes a polypeptide.

20. (New) The method of claim 15, wherein said target sequence comprises RNA that regulates expression of or encodes a polypeptide.
21. (New) The method of claim 15, wherein said biological response is a modification of polypeptide expression.
22. (New) The method of claim 21, wherein said modification is a reduction in polypeptide expression.
23. (New) The method of claim 15, wherein said oligomer is carrier-free.
24. (New) The method of claim 15, wherein said oligomer crosses a blood-brain barrier of said mammal.
25. (New) The method of claim 15, wherein said administration is an intraperitoneal administration.
26. (New) The method of claim 15, wherein said cell is a nervous system cell.